WHAT IS CLAIMED IS:

1. A retrograde cannula for delivering fluid to a patient's vessel, the cannula having proximal and distal ends and including:

an infusion lumen for conducting fluid to be discharged into the patient's vessel,

a stylet lumen extending adjacent to the infusion lumen for receiving a stylet, a distal end of the stylet lumen being blocked, and

an expandable sealing member disposed adjacent the distal end of the cannula for being expanded into sealing relationship with a wall of a vessel.

2. The retrograde cannula according to claim 1 wherein the sealing member constitutes an automatically inflatable balloon, the infusion lumen communicating with an interior of the balloon for inflating the balloon during the delivery of fluid through the infusion lumen, the stylet lumen being in non-communication with the interior of the balloon.

3. The retrograde cannula according to claim 2 wherein the body includes an outer shaft and a coaxial inner shaft, the stylet lumen formed in the inner shaft.

4. The retrograde cannula according to claim 3 wherein the infusion lumen surrounds the inner shaft.

5. The retrograde cannula according to claim 3 wherein an annular space is formed between an outer periphery of the inner shaft and an inner periphery of the outer shaft, the annular space being blocked at a location proximal of the balloon.

6. The retrograde cannula according to claim 1 wherein the sealing member constitutes a manually inflatable balloon, the body further including an inflation lumen communicating with the interior of the balloon for supplying inflation fluid thereto.

7. The retrograde cannula according to claim 1 wherein the balloon includes a fluid outlet opening disposed in a front section thereof for discharging fluid received from the infusion lumen.

8. The retrograde cannula according to claim 1 wherein the body further includes a pressure-monitoring lumen extending therethrough.

9. A retrograde cannula for delivering fluid to a patient's vessel, comprising a body having proximal and distal ends, the body including a lumen extending therethrough for conducting fluid to be discharged into the patient's vessel; the lumen including multiple inlets, one of the inlets constituting a fluid inlet and including a fitting adapted for connection to a fluid supply conduit, and another of the inlets constituting a stylet inlet and including a self-sealing member therein through which the stylet can

penetrate; the self-sealing member being operable to seal the lumen during and after removal of the stylet therethrough.

10. The retrograde cannula according to claim 9, further including an expandable sealing member attached to the body adjacent the distal end thereof.

11. The retrograde cannula according to claim 10 wherein the sealing member comprises an inflatable balloon, the lumen being in communication with an interior of the balloon to inflate the balloon with pressurized fluid conducted through the lumen.

12. The retrograde cannula according to claim 10 wherein the stylet inlet communicates with a main portion of the lumen to which the sealing member is connected.

13. The retrograde cannula according to claim 9 wherein the balloon includes an outlet opening in a front section thereof for discharging fluid received from the lumen.

14. The retrograde cannula according to claim 9 wherein the body further includes a pressure-monitoring lumen.

15. A method of infusing a vessel with fluid using a retrograde cannula, comprising the steps of:

A) inserting a stylet into a stylet inlet of a lumen of a catheter body;

B) manipulating a handle of the stylet for introducing a distal end of the catheter body into the vessel;

C) removing the stylet from the catheter body through the stylet inlet;

D) conducting fluid through a fluid inlet of the lumen that is spaced from the stylet inlet; and

E) discharging the fluid into the vessel.

16. The method according to claim 15 further including the step of causing an expandable sealing member disposed adjacent the distal end to expand into sealing contact with a wall of the vessel.